

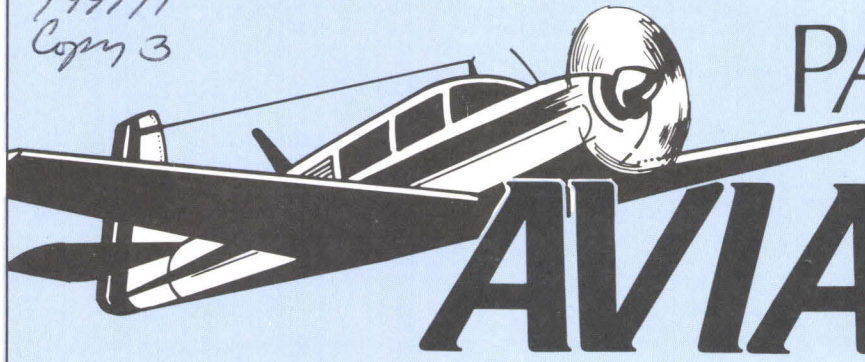
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PALMETTO
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Volume 43, Number 1

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January, 1991

Greenville Woman Competes, Wins In International Flight Competition

Recently, Carolyn Pilaar, a member of the United States Precision Flight Team and Greenville resident competed with 84 pilots from 23 different countries in the ninth World Precision Flying Championship in Argentina.

Testing her skills against some of the best pilots from across the globe, she won the Argentine Trophy in the Women's Best Position category during the international competition.

"I was nervous, surprised and elated," Pilaar said.

It's a very prestigious event, a lot like the olympics of aviation.

The pilots were tested and judged on flight planning, cross country navigation and spot landing. The competition also included two separate navigational routes and four types of landings.

In the competition, Ms. Pilaar flew a Cessna 152, a two seater, of the type used frequently for flight training.

To prepare for the competition, Ms. Pilaar trained in DeQueen, Arkansas for a week

See Competition, page 6



Carolyn Pilaar, of Greenville proudly displays the Argentine Trophy which she won during the World Precision Flying Championships in Argentina.

U.S. Army Cleaning Up Environment

During the years the United States was in World War II, many airports and site around South Carolina were military installations. When the military left, in some cases, materials which could potentially be hazardous to the environment were left behind.

In a project being carried out by the United States Army

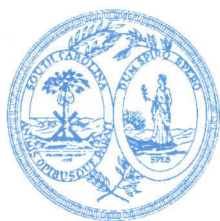
Corps of Engineers, as part of a Department of Defense program, funded by Congress, the Corps is studying former and active sites to determine which locations have material left over from past military use.

The project, called Defense Environmental Restoration Program (DERP) has two parts, one which deals with ac-

tive sites and one which deals with locations formerly used military.

Formerly Used Defense Sites(FUDS), as it is called by the Army, has identified 80 Locations in South Carolina as possibly having material which may be eligible for removal under the program, according to Jim

See Tanks, page 6.



PALMETTO AVIATION is an official publication of the South Carolina Aeronautics Commission. It is designed to inform members of the aviation community, and others interested in aviation, of local developments in aviation and aviation facilities, and to keep readers abreast of national and international trends in aviation.

The Aeronautics Commission is a state agency created in 1935 by the South Carolina General Assembly to foster and promote air commerce in the state.

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Aeronautics Commission approves Airport Grants

Columbia Owens/Downtown Airport, Darlington County Airport, McCormick County Airport and Newberry Municipal Airport received funding for projects at the Aeronautics Commission meeting in Columbia.

During its December 12 meeting the Aeronautics Commission approved \$26,412.47 in state funds for airport projects.

Upon completion, these projects will generate more than \$56,823.00 in total dollars when combined with local funding.

Commission Chairman Jim Hamilton announced the following state allocations:

• **Darlington County Airport**—\$4,179.52 approved for Seal Coating the existing apron in front of the terminal and main hanger to meet the State specifications. Also, to Seal Coat and restripe the parking lot.

• **McCormick County Airport**—\$3,163 approved for a study

to develop the necessary documents to Land Use Zoning around the McCormick County Airport. Such zoning to include height restrictive and incompatible land use.

• **Newberry County Airport**—\$10,000 approved for preparation of new airport layout plans, which will incorporate a new 5,000 runway.

Vice-Chairman Olin Phillips announced the following state allocation:

• **Columbia/Owens Downtown Airport**—\$9,069.95 allocated for update to the airport layout plan (ALP).

The commission also heard an update report from Paul Werts, SCAC Airport Planner, concerning the media and public reception of the Economic Impact of Airports in South Carolina. Werts also recommended the Economic Impact Study be revised after five years.

SCAC Employees Honored



Mike Hugg, Flight Department Manager for the SCAC is presented with a ten year service certificate by Commission Chairman Jim Hamilton.

Bobby Lunn, a maintenance Craftsman for the SCAC is presented a ten year service certificate by Commission Chairman Jim Hamilton.



South Carolina Aeronautics Commission Offices are at Columbia Metropolitan Airport. **Mailing Address:** Post Office Drawer 280068, Columbia, South Carolina, 29228. **Phone:** (803) 822-5400, or 1-800-922-0574.

Power Line Decector Developed

During the years 1982 through 1987 the National Transportation Safety Board investigated six hundred and forty-eight accidents involving collisions of civilian aircraft with power lines. This figure reflects a substantial loss of property and life and doesn't include military or unreported accidents.

To help fight this problem, a Portland, Oregon company, Merritt Middletech has developed an aircraft early warning system which identifies electrical fields surrounding power lines, determines the direction of the line relative to the aircraft heading and calculates the time to potential impact. The information from the device can be displayed in the back of existing cockpit instruments the pilot would already be scanning while in flight.

The device, called ELF(Extremely Low Frequency radiation detection) catcher, cross checks different aspects of an elec-

trical field against one another to provide independent and redundant means of assuring timely warning to the pilot. A patent now granted covers the detection of the electrical field and the time to impact calculations. A second patent is pending for various, redundant methods of determining the direction of the power lines.

None of the results produced by Elfcatcher depend upon knowing the strength of the electrical field but can be gathered from power lines charged at different voltages.

The Elfcatcher is designed for ideal use in aircraft flying close to the ground in situations of limited visibility. This includes aircraft which use unimproved landing fields—military, rescue and police helicopters and planes forced to make emergency landings—as well as low flying observation planes and aircraft used in fighting forest fires and for agricultural purposes.

Orangeburg Municipal Receives New FBO

The past months have seen several changes at the Orangeburg Municipal Airport recently, the airport received a new Fixed Base Operator, the City of Orangeburg.

While the airport has always been under the control of the city, in the past there have been private FBO'S.

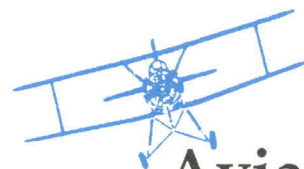
As FBO, the city will have Carroll Joye, a former flight department director and chief pilot for the Belk Hudson Company, as manager of the airport. "We want to make the airport look good. This means beautifying the area and attracting new business and commerce to the city of Orangeburg,"

Joye said.

Joye plans to accomplish this by the means of airport involvement with the local pilots and community. "We want to get the local pilots and citizens out to the airport and let them know we want to work with them to help the city," Joye said.

Future plans for the airport included expansion of the current runway and possible construction of a new runway.

The FBO employees two people full time as well as three part-time. The airport, which has 23 based aircraft and more on a waiting list, is a full service airport.



Aviation Calendar

January 6

North Myrtle Beach
Grand Strand Airport
Breakfast Club

January 20

Doolittle Field
St. Mathews
Breakfast Club

February 3

Greenville Downtown
Cornerstone Aviation
Breakfast Club

February 17

South Carolina
Aeronautics Commission
Columbia Metro
Breakfast Club

March 3

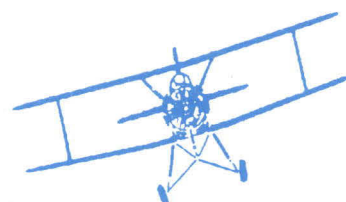
Dillon Airport
Dillon SC
Breakfast Club

May 1991

EAA Chaper 242
May Fly-In
Owens Field
(Tenative)

July 7-13

EAA Annual
Sun -n- Fun Fly-In
Lakeland Florida



South Carolina Aeronautics Airbourne

For the past fifteen years, the pilots of the South Carolina Aeronautics Commission have been assisting state and local law enforcement agencies in police matters which needed air support.

The law enforcement efforts go back as far as 1975 when the Commission purchased its first helicopter, according to Rex Dula, Special Missions Pilot. With the addition of a helicopter, it was easier to assist in surveillance and search operations. Due to the fact there was no airbourne law enforcement organization in the state, the Commission began to find itself involved in assisting different agencies in law enforcement operations.

In 1982, pilots began to work more closely with the State Law Enforcement Division. The pilots were commissioned with constable status which gave them law enforcement privi-

leges state wide. As well, they were able to take part in missions as more than just pilots.

"Once in 1983, I worked undercover in a drug operation posing as a pilot flying drugs. We used a confiscated aircraft and flew drug dealers around. The operation lasted three weeks. I flew 15 hours. In the end, there were nine convictions," said Dula.

Now, the pilots have more than a constable commission for law enforcement background. The pilots attend the South Carolina Law Enforcement Academy where they receive training much the same as any other law enforcement officer in the state. Presently, it is a requirement all newly hired pilots attend the academy and receive training.

The training includes background in legal procedures, driving and weapon training, first aid and self defense. Some of the training such as writing tickets is optional because the pilots have no need for it. However, some of the pilots have completed the entire course. Also, each year, the pilots must undergo three days of refresher training to bring them up to date on new procedures and law enforcement techniques. Additionally, every month, video tapes are received by the Commission, entitled "From Crime to Court." The series, done by South Carolina Educational Television, is designed to allow the pilots to view

the tapes and learn about recent court decisions which would affect their role as law enforcement officers.

In addition to the training provided at the S. C. Law Enforcement Academy, the pilots also receive training while at the Commission. This training is centered around the aircraft the pilots will use on the missions and use of the equipment on the aircraft as it would relate to law enforcement.

Some of the equipment

"The pilots know the limits of their aircraft, what it will do and what it can't do."

the pilots use include:

Loran for plotting coordinates to find where a fugitive or criminal may be. "Sometimes, we will get a call and have to fly some where to meet police to help in a search," said Dula, if we know the coordinates where they are, all we have to do is put them in the Loran and we can fly right to them." This eliminates the pilots having to fly by geographical landmarks and makes it easier to know where they are going and where they have been.

Forward Looking Infrared (FLIR), a device which detects infrared light and transmits a video picture to a monitor in the cockpit is also used.



A view of the cockpit showing the (FLIR) monitor. (left) The FLIR allows the pilots to monitor an area from the air needing no visible light.

Law Enforcement Operations Underway

This allows pilots and law enforcement officials to see what is going on down below even if they are flying in total darkness.

The Night Sun is used as well. It is a powerful light mounted to a helicopter which can illuminate an area on the ground from the air. This enables pilots to shine a light on subjects once they have been located so people on the ground can travel to them.

Also, pilots are trained in the use of night vision goggles. The night vision goggles work without the FLIR or Night Sun. The goggles take available light, either visible or infrared, and electronically amplify it.

"The pilots know the limits of the aircraft. What it will do and what it can't do," said Dula. By continually training and being familiar with the equipment they have to work with, the pilots will be able to do a better job in assisting the law enforcement authorities.

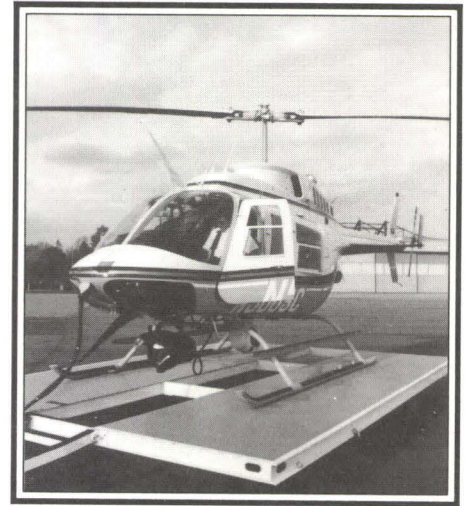
The primary purpose is to support law enforcement agencies when there is a need for aircraft to be involved.

SLED coordinates the function of notifying the agency, who has a pilot on alert seven days a week-24 hours a day, as incidents arise where aircraft may be needed. If a local agency needs an aircraft and a pilot, they call the SLED duty officer who can call on any one of several available aircraft. From the time the pilot is notified, he can be in the air in 30 to 60 minutes.

Sometimes, a week may pass without a call coming asking for assistance. Sometimes, there are several calls a week. The main areas assisted with are drug enforcement, fugitive search, extradition and searches for missing people. It may sound as if the duties are few, but the opposite is true.

"Recently, a local agency asked to help them raid a night club. We flew to the sight of the club and waited for the signal from the ground then lighted the area with the Night Sun so no one could run away. There were 25 arrests made," said Dula. Once we were assisting with a drug raid and an officer on the

ground said he heard something from behind a house. We flew over and took a look with the FLIR. It was a dog outside, wagging his tail," said Dula. The FLIR is also very helpful when

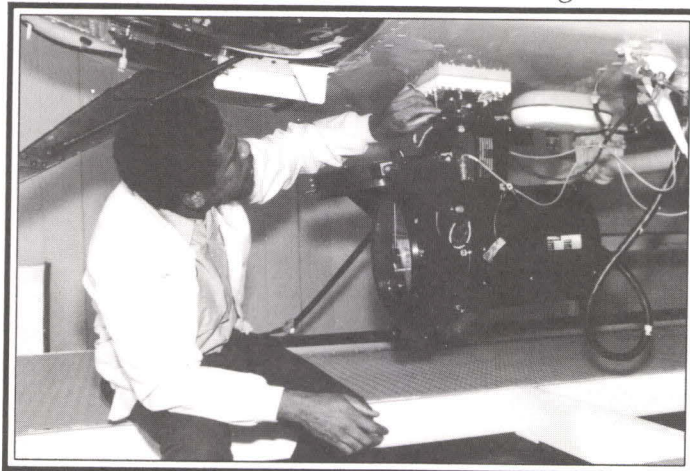


Two Airbourne Law Enforcement pilots prepare to take off on a training flight

searching for a person in a wooded area. Just because the pilot can't see all the way to the ground doesn't mean the FLIR can't detect something." Because of the infrared light the FLIR detects, temperature differences show up on the monitor. As a result, it is easy to locate a person using FLIR.

The Aeronautics Commission Pilots initiate no investigations on their own, acting only on the order from SLED. The purpose the Commission hopes to see this mission serve is to help law enforcement agencies do the best job possible.

After all, it can only help to have an extra set of eyes circling in the skies above.



Paul Graves andy, an aircraft mechanic for the SCAC, makes adjustments to a Night Sun unit. The Night Sun is used in surveillance to light an area on the ground from the air.

World Precision Flight Competition

Continued from Page 1.

in October. However, DeQueen was not a new area for Pilaar, it was the site of the U.S. Precision Flight Team National Championship where she qualified for the U.S. team. During the event, pilots from across the country competed for a spot on the team which would travel to Argentina to compete in the World Championship.

Pilaar traveled to Argentina a week prior to the event to get ready for competition, but because the location of the actual competition course was kept secret, she nor members of the team were able to practice on it before the event.

Pilaar plans to compete again in 1992 for a spot on the National Team so she will be able to compete in the World

Championships once again. However, precision flight is not her full time occupation.

When she is not competing, she owns and operates Carolyn's Flight Academy

"You get paid to do what other people play at."

where she trains students on four planes based at her school located at the Greenville Downtown Airport.

In addition to running the flight school, she spends approximately 15 of her days each month working as a flight engineer for Pan American Airlines. However, it is not a job which she commutes for each day. Pilaar works out Berlin, Germany.

While she has worked for Pan Am, she has flown to countries such as Turkey and Greece, so international travel is nothing new. Of all the countries she has visited, Germany is her favorite. "It's just fun," she said, especially now the country is reunited."

While she is away from her flight school, two flight instructors and a manager keep her business running.

Pilaar has been rated for 22 years and says she became a pilot because it was a fun way to make a living. "It is like being a golf or tennis pro, you get paid to do what other people play at," she said.

Pilaar originally became hooked on flying during her years in college and has been at ever since.

Underground Tank Removal

Continued from Page 1.

Preacher, Acting Chief of the Environmental Resource Section with the U.S. Army Corps of Engineers.

"Not all of the sites were used as airports," he said. Some were used as radar locations or anti-aircraft emplacements.

According to Preacher, the program has several steps.

First, said Preacher, after the site is targeted, the Corps goes in and looks for one or more of four things: UnderGround Storage Tanks, Hazardous Debris, Hazardous and Toxic Waste and Ordinance.

Once the present property owner is located, we explain how the program oper-

ates. If the owner wants the material removed, then the

"Not all sites were used as airports."

Army comes in.

"Sometime an old hanger or barrack is being used for storage and the owner doesn't want the Army to remove it. In this case, the Army has no authority," Preacher said. The Army files a report stating what was done and how the project ended.

Some sites were huge military operations, having more material to be removed. Such is the case with Donaldson Center in Greenville.

According to Phil South-

erland, Director of the Donaldson Development Commission, Donaldson Center is one of the largest sites in the region being handled through the program.

At Donaldson, there are more than 140 underground tanks to be dealt with as well as hazardous debris and hazardous and toxic waste.

The Army's clean-up program developed as a result of the Corps of Engineers increasingly active role in environmental management.

Nation wide, the Corps is in the process of conducting a five year inventory of potential sites which could yield to further projects.

FYI From the FAA

Communicating Without Radio

The following article, **Communicating Without Radio**, is taken from the January-February 1990, **FAAviation News**.

Air to ground radio communications have been an important part of aviation for nearly 75 years now, resulting in vast benefits as regards orderly traffic flow, assistance to lost pilots and emergency aid during equipment failures. Nevertheless, despite the greatly sophisticated current state of the art, aircraft accidents continue to occur which are caused in part or mainly by some kind of communications breakdown.

Sometimes the failure initiates in the radio equipment itself, as a pilot experiences transceiver and/or receiver failure in flight and attempts to land at a tower controlled airport. This is a comparatively rare, although potentially serious, occurrence—which is probably why some airmen find themselves rusty on the techniques of communicating by means of non-radio signals.

One particularly hazardous situation is the progressive loss of radio contact while preparing to land. A typical accident of this kind occurred in June of 1986 at a tower controlled airport in Florida, when the pilot of a 173 retractable found

"One Particular hazardous situation is the progressive loss of radio contact..."

that his electrical charging system was inoperative, shortly after takeoff. He shut down all unnecessary electrical equipment and returned to the airport. According to the National Transportation Safety Board, as the pilot entered the airport traffic pattern he heard the tower, in a broken up transmission, asking the 172RG pilot to rock his wings to establish N number identification. He did so, and was cleared to land.

However, during the 172's approach in the pattern, tower controllers observed that the landing gear were not fully extended. Local control then advised the pilot of their observation and instructed the pilot not to land. This transmission was not received by the Cessna.

The pilot was aware of possible trouble with the landing gear. Although he could see the gear on the left side of the aircraft, as he circled into a right hand base, the green light on the panel did not appear and he was not certain as to whether the gear light was inoperative. He used his radio to transmit a message to the tower, asking whether they

could see any problem with his landing gear, while he circled the field and prepared to land. Receiving no warnings reply, he landed the airplane. The gear collapsed and the aircraft slid off the runway, resulting in substantial damage, but no fire or injury.

In his statement to the NTBS investigators, the pilot acknowledged he had become unduly concerned about the electrical failure and the smell of burning rubber. Consequently, he had not taken time to attempt the pump down the gear by hand before landing. Furthermore, in his haste to land he had apparently forgotten he could no longer transmit, or that his receiver could also have become inoperative. Without confirmation of landing gear securely in place it would have been prudent to await a light signal from the tower before putting the airplane down.

Many of us have become so accustomed to the convenience and reliability of electronic communications that we forget about backup systems and their appropriate use. The recommended procedures for tower communications when the aircraft transmitter and/or receiver fail, as given in the Airmans' Information Manual [paragraph 205] should be reviewed frequently.



SOUTH CAROLINA AERONAUTICS COMMISSION

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This Month...

Inside Palmetto Aviation

- SCAC Airbourne Law Enforcement
- U.S. Army Cleans Up Environment
- Greenville Woman wins in World Flight Competition

... and much, much more!

AOPA Introduces new 900 Information Service

Pilots can now receive a variety of services ranging from information on timely aviation issues to a three-minute safety seminar as part of a new 900-line service introduced by Aircraft Owners and Pilots Association.

"This new service, AOPA CONNECT, will make a wide array of information available to pilots simply by picking up a touchtone telephone," said Harmon O. Pritchard, AOPA Senior Vice President for Marketing. "In today's busy world, pilots often need information in a timely and convenient manner.

The 900-line service will be used in tandem with AOPA's staffed membership services 800 line and will guarantee virtually any question or request a pilot might have will be answered."

According to Pritchard, AOPA CONNECT will provide information in a number of categories, including the latest information on legislative and regulatory issues; airworthiness directives; updates to the Airman's Information Manual; latest trends in aviation fuel prices and places to fly. Special categories that allow users to test their

aviation knowledge and answer special survey questions every week are also included in addition to a variety of safety-related items from AOPA's Air Safety Foundation, including a course calendar of events and a short safety seminar.

Calls to AOPA will be billed to the originating phone number at \$2.00 for the first minute and \$1.00 for each minute. To use AOPA CONNECT, call 1 900 896-2808 from any touchtone telephone. The service is available to both AOPA members and non-members.

This publication is printed and distributed by the South Carolina Aeronautics Commission in the interest of aviation safety and to foster growth of responsible aviation in the state. The viewpoints expressed in articles credited to specific sources are presented as the viewpoints of those writers and do not necessarily reflect the opinion of the South Carolina Aeronautics Commission.